NAVAL POSTGRADUATE SCHOOL
Monterey, California



THESIS

ESTABLISHMENT OF A DOLLAR THRESHOLD TO PRECLUDE CREDIT CARD RECONCILIATION

by

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June, 1998

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The government credit card program was instituted to streamline the federal acquisition process for material that costs less than $2,500 (small purchases). However, the reconciliation procedures were not streamlined. All dollar value discrepancies between the bank's Statement of Account (SOA) and the cardholder's purchase order files had to be resolved. Action by the cardholder to resolve discrepancies, regardless of dollar value, was required. The establishment of a minimum dollar threshold to preclude reconciliation action further streamlined the process and produced cost savings. The Department of Defense Financial Management Regulations did not prohibit the establishment of a threshold. However, Naval Supply Systems Command, card program manager for Department of Navy, required discrepancies to be reconciled to the penny ($.01). To identify savings, Notification of Invoice Adjustment forms were analyzed and interviews conducted with Naval Postgraduate School credit card personnel. The data were utilized to calculate labor costs. Establishment of a threshold resulted in labor savings of $2,500 per year and a twenty-five percent reduction in labor hours. A reduction in labor hours might result in future savings, if the cardholders perform other non-reconciliation functions, and some positions are eliminated.

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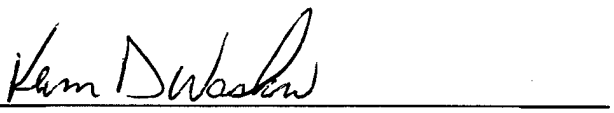
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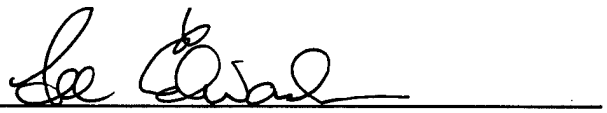
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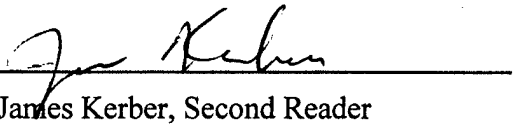
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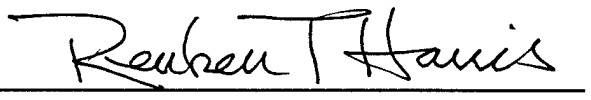
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ABSTRACT

The government credit card program was instituted to streamline the federal acquisition process for material that costs less than $2,500 (small purchases). However, the reconciliation procedures were not streamlined. All dollar value discrepancies between the bank's Statement of Account (SOA) and the cardholder's purchase order files had to be resolved. Action by the cardholder to resolve discrepancies, regardless of dollar value, was required. The establishment of a minimum dollar threshold to preclude reconciliation action further streamlined the process and produced cost savings. The Department of Defense Financial Management Regulations did not prohibit the establishment of a threshold. However, Naval Supply Systems Command, card program manager for Department of Navy, required discrepancies to be reconciled to the penny ($.01). To identify savings, Notification of Invoice Adjustment forms were analyzed and interviews conducted with Naval Postgraduate School credit card personnel. The data were utilized to calculate labor costs. Establishment of a threshold resulted in labor savings of $2,500 per year and a twenty-five percent reduction in labor hours. A reduction in labor hours might result in future savings, if the cardholders perform other non-reconciliation functions, and some positions are eliminated.

TABLE OF CONTENTS

I. INTRODUCTION 1

A. BACKGROUND 1

B. RESEARCH QUESTIONS 3

1. Primary Research Question 3

2. Secondary Research Questions 4

C. DISCUSSION 4

D. SCOPE OF THE THESIS 9

E. ASSUMPTIONS 9

F. METHODOLOGY 9

G. BENEFITS OF THE STUDY 12

H. ORGANIZATION OF THE THESIS 12

II. CURRENT RECONCILIATION PROCEDURES 13

A. BACKGROUND 13

B. PROCESS 13

III. RESEARCH METHODOLOGY AND ANALYSIS 21

A. DATA GATHERING 21

B. DATA ANALYSIS 28

C. COST BENEFIT ANALYSIS 32

IV. CONCLUSIONS AND RECOMMENDATIONS 39

A. CONCLUSIONS 39

B. RECOMMENDATIONS 41

C. ANSWERS TO RESEARCH QUESTIONS 41

D. AREAS FOR FURTHER RESEARCH 43

APPENDIX ACRONYMS 45

LIST OF REFERENCES 47

INITIAL DISTRIBUTION LIST 49

I. INTRODUCTION

A. BACKGROUND

The government commercial purchase card program, hereafter referred to as "the card", was instituted to streamline the acquisition process of small dollar value purchases. A small dollar value purchase, or micro-purchase, was defined as the purchase of material that costs less than $2,500. The ultimate objective of the card program was to provide a less costly and more efficient procurement process. The streamlined procurement process included all aspects of small purchase acquisitions; from the actual purchase of the material to the payment of the invoice.

Naval Supply Systems Command (NAVSUP), Mechanicsburg, Pennsylvania, was the card program manager for the Department of Navy (DON). As of 1 October 1997, NAVSUP has made the use of the card mandatory for the purchase of items that cost less than $2,500. As might be expected the use of the card has increased dramatically.

The overall card program was administered by a General Services Administration (GSA) contract with Rocky Mountain Bank, Fargo, North Dakota. As of March 1998, a new credit card contract was in the process of being awarded and it was

not certain if Rocky Mountain Bank would retain the contract. Invoice certification procedures were governed by the Department of Defense Financial Management Regulations (DoDFMR).

The credit cards issued under the program were regular Visa charge cards. Individual activities, such as the Naval Postgraduate School (NPS), Monterey, California, establish a credit card program under the direction of NAVSUP and in accordance with the requirements of the GSA contract. At NPS, 180 personnel have been issued credit cards with the authority to obligate appropriated funds. The credit card program at NPS was one of the largest, based on the number of cardholders, within the DoN.

A key requirement of the credit card program was to perform monthly reconciliation procedures. The procedures required certifying a Statement of Account (SOA) received from Rocky Mountain with the documentation maintained in the purchase order file. The certification process entailed matching the dollar values listed on the SOA with the dollar values contained in the corresponding purchase order file. Any mismatch, regardless of the dollar value, was considered to be a discrepancy.

Reconciliation procedures at NPS required the cardholder to take necessary actions to resolve all discrepancies, regardless of dollar value. Reconciliation procedures were labor intensive and required approximately forty minutes per discrepancy to resolve. The labor cost to resolve a discrepancy was $12.02. The cost was calculated utilizing a labor rate of $18.03 (see Chapter III, section C) multiplied by two-thirds of an hour. The cardholder utilized the same level of effort to resolve a discrepancy of a few cents, as one that was a thousand dollars.

A minimum dollar threshold to preclude reconciliation actions of the small dollar value discrepancies was non-existent. The establishment of a threshold reduced the number of discrepancies required to be reconciled. The reduction in the number of discrepancies decreased the amount of labor hours expended on reconciliation procedures and resulted in additional labor savings to the government.

B. RESEARCH QUESTIONS

1. Primary Research Question

Should a minimum dollar threshold be established which might decrease the number of reconciliation actions to be performed on vendor's invoices and credit card statements? If so, in what dollar amount and for what reason?

2. Secondary Research Questions

a. What were the possible cost savings incurred by not reconciling requisitions below the threshold?

b. Did Naval Supply Systems Command support the establishment of a threshold and was a threshold authorized by the Department of Defense Financial Management Regulations?

C. DISCUSSION

The credit card purchase cycle encompassed the generation of a material requirement, by an end-user, to the payment of the invoice. In between the aforementioned phases, was the actual acquisition of the material by a cardholder. To fully comprehend the reconciliation process that transpired during the certification of the SOA, an understanding of the acquisition portion of the credit card purchase cycle had to be developed.

When an end-user requested material, a requisition for material was submitted to the cardholder. The requisition contained an estimated price, description of the material, quantity required, accounting data to reserve funds for the purchase and the name of a vendor that sold the particular material. The end-user contacted the vendor and obtained the estimated price. The information listed on the

requisition was entered into the computer system for tracking purposes.

Upon receipt of the requisition the cardholder contacted a vendor and obtained a price quote for the requested material. Contact with a vendor was normally accomplished with telephone calls and facsimile transmissions. The cardholder determined whether the price quote received from the vendor was reasonable and, if so, entered the price into the government's computer system.

The cardholder had the option to determine the vendor's estimated price to be unreasonable. If that happened, the cardholder contacted other vendors until a price quote was determined to be reasonable. Whether or not a price quote was reasonable or unreasonable was beyond the scope of the thesis.

A reasonable price quote was compared to the amount of funds obligated on the requisition. The purpose was to verify that sufficient funds were obligated to complete the purchase. If sufficient funds were not obligated, the end-user was contacted to obligate additional funds. When sufficient funding was available, the cardholder placed the order with the vendor.

To place the order, the cardholder provided the vendor with shipping instructions and the credit card number. After the order was placed, the cardholder prepared a purchase order file that contained the original requisition and the information obtained from the vendor. The information from the vendor included notes that the cardholder took during telephone calls and any facsimile transmissions that were received. The ordering process was completed.

After the order was placed and the purchase order file completed, the cardholder forwarded copies of the completed purchase action to the end-user and to the central receiving point. The purpose was two-fold. The end-user received status of the procurement action and the warehouse/receiving department was informed of pending material receipts.

All material was required to be delivered to the central receiving location. However, on some occasions the vendors sent the material directly to the end-user. The end-user informed the vendor to send the material direct, and not through receiving, in an effort to receive the material faster. This dialogue happened when the end-user contacted the vendor for the price estimate. The end-user received the material faster, but the violation of policy

caused problems and delayed the cardholder during the reconciliation phase.

Regardless of where the material was delivered, end-user or warehouse, the vendor documentation accompanying the material was required to be sent to the cardholder. The information was required to complete the monthly reconciliation process. If the documentation was not received, this too, caused delays for the cardholder during the reconciliation phase.

The last action of the credit card purchase process was to reconcile the monthly Statement of Account (SOA) with the data contained in the purchase order file. The SOA was the official bank statement. Each cardholder received an SOA detailing all transactions completed for the particular billing cycle. The billing cycle ended on the twenty-first of each month.

Information contained on the SOA was very similar to that of a personal credit card statement. It included the name of the vendor who supplied the material and the cost of the item. The bank received the data contained on the SOA from the vendor.

When the SOA was received from the bank, the cardholder was required to reconcile the bank statement with

documentation that the cardholder received from the vendor and receiving/end-user. Any dollar value that did not match was considered to be a discrepancy. All discrepancies identified required resolution by the cardholder. The specific actions taken to resolve discrepancies were detailed in Chapter II.

In addition to the reconciliation actions, the discrepancies were recorded on the Notification of Invoice Adjustment (NIA) form. Transactions were listed on the NIA by requisition number, dollar amount and whether it was added to, or subtracted from, the invoiced amount. Upon completion of the reconciliation, the NIA forms were submitted to the Comptroller. Comptroller's office personnel completed the actual adjustment of the invoice.

Discrepancies that did exist were generally between the vendor and the government. The bank involvement in the reconciliation phase was minimal and limited to reporting the data/information provided by the vendor. However, the data passed back and forth between the vendor and the government was substantial. It included price quotes, shipping information, material availability and the federal government sales tax exemption. With the passing of a large amount of information, human errors were prevalent.

D. SCOPE OF THE THESIS

The scope of the thesis was limited to the actions taken by the cardholder at the activity level, namely NPS. Specifically, it dealt exclusively with the cardholder's reconciliation of the bank statement with documentation provided by the vendor. The goal was to identify potential cost savings in the establishment of a minimum dollar threshold that precluded reconciliation actions.

E. ASSUMPTIONS

It was assumed that the reader had a basic familiarity with NPS' credit card procedures and Federal Acquisition Regulations.

F. METHODOLOGY

The research started with reported discrepancy data contained in the September, October and November, 1997, NIA forms. The data contained on the NIA forms included the dollar amount of the discrepancy and whether or not it was added to, or subtracted from, the invoiced amount. The reason for the selection of the three months was to study the influence that the end of the government's fiscal year, 30 September 1997, had on the number and dollar values of reported discrepancies.

The discrepancies contained in the NIA forms were grouped into five-dollar increments within the zero to fifty-dollar range for each thirty-day period: September to November, 1997, inclusive. Discrepancies greater than fifty-dollars were grouped together in one category for the same time period.

The fifty-dollar threshold was based on a reference contained in the Department of Defense Financial Management Regulations (DoDFMR). The regulations stated that "Collection of debts less than $50 will not be pursued." (Ref. 1) Further discussion of the establishment of the fifty-dollar threshold was contained in Chapter III.

The increments were analyzed to determine the number and percentage of discrepant transactions in each increment. The percentage was based on the number of discrepancies in each increment divided by the total number of discrepancies for that month. Analysis of the percentages of discrepancies, and not the number of discrepancies, allowed the three months to be compared to one another.

The aggregate dollar value of discrepancies for the three months were recorded and analyzed. The dollar amounts listed provided the net effect of paying the invoices as is and payment of the revised invoiced amount if a threshold

had been established. The dollar amount was used in the cost benefit analysis to determine the net potential cost savings.

Naval Supply Systems Command was the program manager for the credit card program. As such, NAVSUP was responsible for the operation of the program and the establishment of procedures that pertained to the credit card program. A statement concerning the establishment of a threshold to preclude reconciliation was received from the Director, Credit Card Program, at NAVSUP headquarters.

A comprehensive review of the invoice certification sections of the Department of Defense Financial Management Regulations (DoDFMR) was conducted. The DoDFMR contained the regulations that all DoD activities were required to follow regarding Financial Management. The purpose of the review was to determine whether or not the establishment of a threshold was within the purview of current regulations.

The final step in the methodology was to conduct interviews with NPS cardholders. The interviews provided step-by-step credit card reconciliation procedures. The step-by-step procedures were detailed in Chapter II. The secondary goal of the interviews was to ascertain the estimated amount of time required for completing

reconciliation procedures. The data was required to complete the cost benefit analysis and was detailed in Chapter III.

G. BENEFITS OF THE STUDY

The benefits of the study included the identification of potential cost savings to the government and improved efficiency regarding reconciliation of bankcard statements at the cardholder level.

H. ORGANIZATION OF THE THESIS

Chapter I discussed the purpose, scope and the methodology utilized to complete the thesis. Chapter II provided the current NPS reconciliation procedures. Chapter III described the research methodology and analysis and included data gathering, data analysis and cost benefit analysis. Chapter IV provided conclusions and recommendations.

II. CURRENT RECONCILIATION PROCEDURES

A. BACKGROUND

To fully understand the potential cost savings associated with the establishment of a reconciliation threshold, an understanding of the reconciliation procedures was developed. Reconciliation was a time-consuming process for the cardholder because of interaction with the vendor, the receiving personnel and the end-user. To complete the reconciliation procedures the cardholder required information from one, or all, of the people listed above. Waiting for information delayed the entire reconciliation process.

B. PROCESS

The reconciliation process started when the cardholder received a Statement of Account (SOA) from Rocky Mountain Bank. The SOA listed all transactions made by the cardholder during the monthly billing cycle. Transactions were listed by vendor and included the dollar amount of the purchase. The SOA was compared with the purchase order file.

A purchase order file was maintained for each purchase completed during the month. The contents of the purchase file included the end-user's requisition, notes taken by the

cardholder during the solicitation phase and any documentation received from the vendor. Notes included the vendor's price quote, material specifications, quantity and shipping data. Documentation might be a charge slip, receiving/shipping documents or a cash register slip. (Ref. 2) The documentation was used to verify the accuracy of the transactions shown on the cardholder's SOA.

Each transaction listed on the SOA was compared with the corresponding purchase order file. If the dollar amounts matched, no discrepancy existed and no further action was required. If the dollar amounts did not match, the cardholder researched the discrepancy to determine the cause of the difference. The research was required regardless of the dollar value of the difference and whether it was added to, or subtracted from, the invoiced amount. The charging of sales tax, non-receipt of material or duplicate charges were possible causes for the discrepancy.

The research required rectifying the discrepancy included, at a minimum, contacting the applicable vendor. As with the ordering process, contact with the vendor was usually accomplished via telephone calls. The cardholder explained the situation to the vendor and provided a possible explanation for why the discrepancy existed. The

vendor conducted his or her own research into the problem. Resolution of the discrepancy required concurrence from both the cardholder and the vendor.

Two types of discrepancies were possible: overcharge; and undercharge. The procedures employed rectifying either type were the same. The only difference was whether the vendor issued a credit voucher, or the cardholder placed an additional order. The credit voucher decreased the invoiced amount, and the additional order obligated government funds and increased the amount of the invoice.

Before the cardholder placed an additional credit card order with the vendor to resolve the dispute, the cardholder ensured that the original requisition had adequate funding to cover the obligation. If not, the cardholder obtained a new requisition from the end-user in the amount of the difference. If the requisition was from a prior fiscal year, a new obligation, citing current fiscal year funds, was incurred to cover the additional cost.

To resolve a discrepancy with the vendor was a time-consuming process. Not only did the vendor verify the accuracy of the information, the vendor might decide not to take any action. A vendor was not subject to the same

financial management requirements of the government and, therefore, had the option of writing off business losses.

On some occasions the cardholder had to plead with the vendor to issue a credit voucher, or accept an additional credit card order, to clear small dollar value discrepancies. The main reason was that the vendor understood the costs to conduct a business transaction. Each additional transaction costs the vendor money and ultimately affected the profit margin.

When the government (receiving or end-user) received the material, any documentation accompanying the material was forwarded to the cardholder. However, this did not always happen. During the reconciliation, the cardholder compared the contents of the purchase order file, which should include the receiving documentation, with the SOA. If the cardholder did not have the required paperwork for an item listed on the SOA, the cardholder obtained the paperwork from the vendor, central receiving and/or end-user. This, too, was a time-consuming endeavor and caused delays in the reconciliation process.

The cardholder first placed a telephone call to personnel at the central receiving point to determine if the material had been received. If it was already received,

receiving personnel forwarded copies of the paperwork to the cardholder. When the documentation was received, the cardholder matched the price on the paperwork with the price listed on the SOA. If the prices matched no discrepancy existed and the situation was resolved. If the prices did not match, the cardholder completed the entire reconciliation process to resolve the discrepancy.

If receiving personnel did not have receipt documentation; the end-user was contacted to determine if the material was shipped directly to the end-user. If it was, then the same reconciliation procedures as discussed above were utilized. This included the determination for whether or not the pricing matched.

If neither receiving personnel nor the end-user had the material or documentation, the vendor was contacted. Upon contacting the vendor, the vendor verified the order. When the order was verified, the vendor contacted the company's shipping/warehouse personnel to determine the status of the order. If the order had been shipped, the shipping company was contacted to trace the product.

When all of the research and tracking were completed, the vendor provided the cardholder with shipping/receiving documentation, or confirmation that the material had been

shipped. Then, and only then, was the situation resolved, as long as a pricing discrepancy did not exist.

To complete the reconciliation actions on a non-receipt of material/documentation transaction required the cardholder to wait for shipping/receiving paperwork. If the paperwork did not arrive prior to the reconciliation completion deadline, the item was listed on the NIA as a discrepancy. However, a NAVSUP initiative was introduced to ease the burden of the non-receipt of material/documentation scenario. The new procedure was called "pay and confirm."

The "pay and confirm" procedures were just that. The new procedure allowed the government to pay the invoice and confirm delivery of the material after payment was made. The procedure reduced the amount of interest paid by the government. However, the cardholder was still required to reconcile the delivery and prices of the item with the vendor, the receiving personnel and the end-user.

After the cardholder completed the reconciliation procedures, the NIA and SOA were sent to the Approving Official (AO). The AO was required to review the forms for accuracy, sign and forward them to the comptroller's office. The comptroller reviewed the forms, compiled all of the

discrepancies and submitted the official invoice to the Defense Finance and Accounting Service (DFAS) for payment.

Monetary discrepancies, regardless of dollar value, required research and corrective action to be performed by the cardholder. Resolution of any one discrepancy requirec numerous telephone calls and much patience on the part of the cardholder. The cardholder had to wait for the vendor to complete similar research, concur with the discrepancy, and to take the necessary action to resolve the discrepancy before proceeding.

The complete reconciliation cycle was a stop-and-go process. While the cardholder waited for the vendor to respond, work on the discrepancy stopped. The cardholder commenced work on a different project. The new project might be the placement of new credit card orders or actions to resolve other discrepancies. It was practically impossible to complete a reconciliation action with only one telephone call.

A cardholder determined what action was necessary to resolve a discrepancy, completed the required steps (i.e. call the vendor), then moved on to the next project until the information was received. When the information was received, the cardholder put aside the other projects, and

completed the reconciliation process of the transaction. The process continued until all disputes were resolved to the satisfaction of the vendor and the cardholder.

The reconciliation of the Statement of Account and the purchase order file was a time-consuming process. The cardholder ensured that the dollar amounts between the two documents matched to the penny. If a mismatch existed, the cardholder took corrective action to reconcile the difference.

In summary, the reconciliation process applied to all monetary discrepancies, regardless of dollar value and regardless of whether it was added to, or subtracted from, the invoiced amount. The cardholder determined the cause of the discrepancy and completed the necessary actions to resolve the problem. The actions required included, at a minimum, telephone contact with the vendor, the receiving personnel and the end-user. The resolution of the discrepancy required the cooperation of the vendor, receiving personnel and the end-user. If the discrepancy was not resolved, it was listed on the Notification of Invoice Adjustment form.

III. RESEARCH METHODOLOGY and ANALYSIS

A. DATA GATHERING

Data gathering consisted of obtaining Notification of Invoice Adjustment (NIA) forms, interviews with key functional personnel and a review of the Department of Defense Financial Management Regulations. As mentioned previously, the NIA forms utilized were submitted for the months of September, October and November, 1997. Interviews were conducted with NPS cardholders and personnel from Naval Supply Systems Command, Mechanicsburg, Pennsylvania, and the Office of the Under Secretary of Defense (Comptroller), Washington, D.C. The invoice certification regulations in the Department of Defense Financial Management Regulations (DoDFMR) were also reviewed.

The main data fields used for the study were on the Notification of Invoice Adjustment form. The fields included the dollar amount of the dispute and whether the dispute added to, or subtracted from, the invoiced amount. All items listed on the NIA, regardless of dollar value, must be resolved. A thorough analysis of the NIA forms for September, October and November, 1997, was contained in the Data Analysis section.

Two categories of information were gathered during interviews conducted with credit card cardholders at NPS. The interview categories were: step-by-step reconciliation procedures, and, secondly, the time required performing various reconciliation procedures. The reconciliation procedures were covered previously in Chapter II. The amount of time required completing the procedures was detailed in the Cost Benefit Analysis section.

A comprehensive review of the DoDFMR was conducted determining whether the establishment of a threshold was authorized, or if it was against regulations to establish a threshold. The regulations contained three references concerning the establishment of and/or utilization of minimum thresholds. The references, quoted verbatim from the DoDFMR, were:

1. Accounting and collection procedures shall be designed to provide information to assist in determining realistic points of diminishing returns beyond which collection efforts were not justified, and the minimum amount of a debt when no collection action at all should be undertaken. (Ref. 3)

2. Debts will be written off when collection costs would exceed the amount recoverable. (Ref. 4)

3. Collection of any debt less than $50 will not be pursued. (Ref. 5)

Paragraphs one and two above recommended the establishment of a threshold, but did not specify a limit. Paragraph three above took it one step further and specifically stated $50.00. However, the references did not specifically state whether or not the references applied to credit card purchases.

Two potential drawbacks existed to the references cited above. The first was the type of contracting method, large contract or credit card purchase, affected by the references was not specifically mentioned. The second, and somewhat related to the first drawback, was that the references appeared to pertain only to large contracts (i.e. those greater than $25,000).

An interview with Major Brian Lee, Office of the Under Secretary of Defense (Comptroller) [OUSD(C)], was conducted clarifying the meanings of the references. He concurred with the observation that the references cited appeared to apply to large contracts (those greater than $25,000) and not really applicable to credit card purchases. Major Lee further recommended the establishment of a threshold as a cost savings measure and that it was up to the individual

activities to establish one. The basis for the recommendation was that the DoDFMR did not prohibit the establishment of a threshold.

To obtain NAVSUP's guidance on the use of a threshold, questions were sent via electronic mail to the official Purchase Card website. The site allowed personnel to ask questions concerning the use of the credit card. The site's web address was: [navsup.navy.mil/ceilidh/ceilidh.htm].

The questions asked on the electronic mail included whether or not an activity was authorized to establish a threshold, and if regulations allowed the establishment of a threshold. The response from Ms. Eva Robinson, NAVSUP Credit Card Program Director, was that all discrepancies must be reconciled to the penny ($.01). The basis for the position was that the government needed to ensure the bank was reimbursed for the amount of funds that the bank paid to the vendor.

The position of reconciling to the penny ($.01) to ensure the bank was reimbursed appeared to be unfounded. The bank was reimbursed for the amount it paid to the vendor with the establishment of a threshold. To explain how the bank was reimbursed, the documentaion flow between the vendor, the bank, and the government was analyzed.

The bank received paperwork from the vendor stating what price to charge the government. The bank reimbursed the vendor for that amount and then billed the government for the same amount paid to the vendor. The following scenarios were presented to clarify the issue.

For the first scenario, assume a discrepancy did not exist. The vendor submitted a bill of $125 to the bank, the bank paid the vendor $125 and billed the government $125. The government paid the bank $125 which was the same amount the bank paid to the vendor.

Now, assume a discrepancy did exist. The vendor submitted a bill for $125, the bank paid the $125 and billed the government $125. For whatever reason, the actual amount of the purchase according to documentation retained by the government was $124. This was a discrepancy of one-dollar. To resolve the discrepancy, the cardholder conducted the reconciliation procedures detailed in Chapter II.

The discrepancy was determined to be valid. The vendor submitted a credit voucher of one-dollar to the bank. The bank received $124 from the government and the voucher from the vendor. The bank received a net amount of $125.

With a threshold established, the government paid $125 and did not conduct the reconciliation procedures. The

government overpaid; however, the amount of time saved by not reconciling the discrepancy resulted in labor savings. The amount of labor savings was detailed in the Cost Benefit Analysis section.

Scenario three was similar to scenario two except the government documentation reflected a purchase price of $126 instead of $124. The reconciliation procedures were once again conducted and the discrepancy was determined to be valid. The government submitted an order to the vendor for one-dollar and the vendor submitted the one-dollar charge to the bank.

If a threshold was established, the government reimbursed the bank $125, which was the same amount the bank paid to the vendor. In this scenario, it was the vendor that lost one-dollar. The vendor was able to write the loss off as a business loss.

In all three scenarios, the bank was reimbursed for exactly the same amount as it paid the vendor. When reconciliation procedures were applied, reimbursement was in the form of money, credit vouchers or an additional charge. With the establishment of a threshold to preclude the reconciliation procedures, reimbursement was in the form of money.

The establishment of a threshold saved the bank, the vendor, and the government time and effort. However, the scope of the thesis was limited to the savings realized by the government. The savings were documented in the Cost Benefit Analysis section.

The numerical data gathered provided insight into the number of discrepancies and the associated dollar amounts. The interviews conducted with NPS cardholders provided the step-by-step reconciliation procedures and the amount of time required performing the procedures. The aforementioned information was required to conduct the Cost Benefit Analysis.

The review of the governing regulations, the DoDFMR, confirmed that the establishment of a threshold was not explicitly authorized, nor was it strictly prohibited. However, guidance from NAVSUP, the card program manager, stated that all discrepancies must be resolved to the penny ($.01). The difference of opinion was moot and there was a need for resolution.

B. DATA ANALYSIS

The NIA forms for September, October and November, 1997, were analyzed and divided into two categories. Category one was the number of discrepancies and category two the dollar amounts of the discrepancies. Disputes were listed on the NIA by dollar amount and whether it added to, or subtracted from, the invoiced amount.

For the purposes of the study, the number of discrepancies was separated by dollar value into five-dollar increments. The five-dollar increments were limited to less than or equal to fifty-dollars. The fifty-dollar cutoff was utilized for consistency with the limit established in the DoDFMR for large contracts. The purpose of the separation was to determine the number of discrepancies and the percentage of discrepant transactions in each dollar value increment.

Table 1 summarized the number of discrepancies in each increment. The left column represented various five-dollar increments. The columns under the months represented the number of disputed transactions in each increment. Totals for each increment were provided, as were subtotals of discrepant transactions that were less than or equal to fifty dollars. The number of discrepant transactions

greater than fifty-dollars was provided as a comparison to the number of transactions in the less than or equal to fifty-dollar segment. Columns that did not have any numbers listed did not have a discrepancy in that increment for that particular month.

	1997			
	September	October	November	Total
0-5	5	4	1	10
5.01-10	3	3	3	9
10.01-15	6	6	2	14
15.01-20	4	2	2	8
20.01-25	1	2	1	4
25.01-30	2	1		3
30.01-35		2		2
35.01-40	3	5		8
40.01-45	1	1		2
45.01-50	1		1	2
Subtotal	26	26	10	62
>50	63	75	27	165
Total	89	101	37	227

Table 1. Number of Discrepancies By Incremental Dollar Value

The data in Table 1 reflected that September and October had about the same number of discrepant transactions, with November substantially different. The reason for the disparity was beyond the scope of the thesis; however, the cause was more than likely associated with the relatively greater amount of purchases made in September before the appropriated funds expired on 30 September 1997.

The data in Table 2 reflected the percentages of discrepancies in each increment. The left column represents the increments. The numbers listed under the monthly columns were the percentages of disputed transactions contained in each increment. The percentages were computed by dividing the number in each increment by the total number of disputed transactions for the month. The individual percentages of the less than or equal to fifty-dollars do not add up to the subtotal percentage because of rounding.

	1997			
	September	October	November	Total
0-5	5.6	4	2.7	4.4
5.01-10	3.8	3	8.1	4
10.01-15	6.7	5.9	5.4	6.2
15.01-20	4.5	2	5.4	3.5
20.01-25	1.1	2	2.7	1.8
25.01-30	2.2	1		1.3
30.01-35		2		.9
35.01-40	3.8	4.9		3.5
40.01-45	1.1	1		.9
45.01-50	1.1		2.7	.9
Subtotal	29.2	25.7	27	27.3
>50	70.8	74.3	73	72.7
Total	100	100	100	100

Table 2. Percentage of Disputed Transactions

It seemed that the percentages listed in Table 2 vary from month-to-month and increment-to-increment in the less than or equal to fifty-dollar segment. The month-to-month variance was not vital to the analysis of whether or not to

establish a threshold. What was important, however, was that the subtotal percentages for this same segment showed very little variance. The subtotal percentages for the three months were all approximately twenty-five percent.

In continuance, the interpretation of data from Table 2 was that approximately twenty-five percent of the reconciliation workload was comprised of discrepant transactions less than or equal to fifty-dollars. Therefore, a threshold of fifty-dollars resulted in a reduction of twenty-five percent of the reconciliation process. A significant reduction in administrative workload was realized.

Another important factor to consider in the process was the dollar values of the disputed transactions. If a threshold of less than or equal to fifty-dollars was established, what would be the net effect on the amount of the invoice? To determine the answer, the dollar values for the disputes less than or equal to fifty-dollars were added and/or subtracted. Table 3 reflected the monthly totals of dollar values for transactions less than or equal to fifty dollars. The monthly totals were independent of each other. The total value was the cumulative amount for the three months.

	Additions	Subtractions	Difference
September 1997	121.50	344.61	(223.11)
October 1997	380.49	140.93	239.56
November 1997	107.87	46.50	61.37
Total	609.86	532.04	77.82

Table 3. Dollar Values of Disputed Transactions

In the less than or equal to fifty-dollar category a wide disparity in the actual dollar values of the discrepancies was evident. The smallest discrepancy was fifty cents ($.50) and the largest was $46.92. However, the important fact was the net dollar value of the three months was $77.82. The figure represented additional funds the government paid to contractors if a less than or equal to fifty-dollar threshold was established.

C. COST BENEFIT ANALYSIS

In an era of decreasing budgets it was incumbent upon all personnel to search for potential cost savings measures. An example was the "pay and confirm" procedures identified previously. Another measure was the establishment of a threshold, which precluded the aforementioned reconciliation procedures. The Cost Benefit Analysis section determined

the establishment of a threshold was a cost savings and provided the approximate savings.

During interviews conducted with various cardholders (n = 6) it was quite evident that a standard response of how long it took a cardholder to reconcile an SOA, with or without, discrepancies was difficult to assess. It was caused by many factors. The factors included vendor response time, whether or not receiving paperwork was available, and how many transactions the cardholder had completed during the billing cycle.

To determine the amount of time it took to complete the reconciliation procedures it was necessary to split the transactions into two categories. The first category was reconciliation of transactions with no discrepancies. The second category was reconciliation of transactions that had discrepancies.

The time to reconcile a transaction in the first category was easy to measure. It was the amount of time it took a cardholder to compare the SOA with the purchase order file and determine if the prices matched. The time measured approximately two minutes per transaction.

The time to reconcile a transaction in the second category was more difficult for the cardholders to measure.

The difficulty in measuring the amount of time was caused by vendor response time and the stop-and-go nature of the reconciliation process. Vendor response time was defined as the amount of time from when a cardholder contacted a vendor requesting documentation and when a vendor responded.

Prior to the submission of any documentation to the cardholder a prudent vendor conducted independent research into the discrepancy. If the vendor determined the action proposed by the cardholder was correct, the discrepancy was resolved. While the vendor conducted the research, the cardholder worked on other projects until the vendor responded.

After the vendor responded with the data to correct the discrepancy the cardholder took the necessary actions to complete the reconciliation process. The inclusion of the vendor's response time into the calculation of how much it costs to reconcile a discrepant transaction was a misrepresentation of the government's cost. Therefore, a vendor's response time was excluded in the cost calculations.

The time measured for the second category was the actual time that the cardholder spent reconciling a discrepant transaction. The time was measured at forty

minutes. The dollar value of the discrepancy did not play a role in how long it took to resolve the dispute.

As previously mentioned, a major contributor to the amount of time was the stop-and-go nature of the reconciliation procedures. The cardholder would request information from a vendor or end-user and put that purchase order file aside while waiting for the information. The cardholder commenced work on another dispute or on a new procurement action.

While working on the new transaction, the information to resolve the old transaction arrives. The cardholder had the option of completing the purchase action on the new transaction, or completing the reconciliation action on the old transaction. Either way it was stop-and-go, and added time to the process.

Various costs were accumulated in the reconciliation process. The cost of labor constituted the largest expenditure. To calculate the cost of labor, a labor rate of $18.03 per hour was utilized. The rate was based on a calculated labor rate of $17.54 (Ref. 6) and the civil service pay raise of 2.8% that went into effect on 1 January 1998. The $17.54 rate was the average labor rate for NPS purchase card employees (GS-5 to GS-8) involved in the

reconciliation process and included a twenty-three percent burden rate.

Another cost factor to consider was interest. The government paid interest to the bank at a current rate of 6.75% (.5625% per month). Interest accrued on all disputed amounts not paid within forty days. It was important to note that only the disputed amount was charged interest, not the entire amount of the transaction. The undisputed portion of the transaction was included in the invoice paid by DFAS. For the dollar amounts listed in Table 3, the amount of interest was calculated at $3.93. For the purpose of the thesis, the amount was considered negligible and not considered in the cost savings calculations.

Other miscellaneous expenses considered in the cost analysis were: the use of computers; facsimile machines; office supplies; utilities; etc. However, the miscellaneous office equipment was used for all requirements and not just reconciling disputed transactions. The calculated cost of the equipment on a per transaction basis, were inconsequential. For this reason, miscellaneous office equipment costs were excluded from the analysis.

Labor costs were by far the largest expenditure in the credit card reconciliation process. The amount of savings

realized by establishing a threshold a comparison of labor costs associated with the current reconciliation system, and a system with a less than or equal to fifty-dollars threshold was calculated. The data was listed in Table 4.

Under the current reconciliation system, all 227 discrepant transactions required cardholder action to resolve the discrepancy. The reconciliation system with a threshold of less than or equal to fifty-dollars required approximately 165 transactions to be reconciled. A difference of sixty-two transactions.

Cardholder resolution of a discrepancy, regardless of dollar value, required an average of forty minutes, or .667 hours. The total labor cost for each system was computed by multiplying the number of transactions, the time per transaction and the labor rate of $18.03. The labor savings were computed by subtracting the labor costs of the two systems. The additional funding was calculated in Table 3.

	Current System	Threshold < = $50
Number of transactions	227	165
Time per transaction (Hrs)	.667	.667
Labor Rate	18.03	18.03
Total Labor Cost	2729.90	1984.29
Labor Savings		745.61
Additional Funding		77.82
Net savings		667.79

Table 4. Potential Net Savings

The labor savings of $745.61 for three months might not seem significant. However, over forty-one hours (sixty-two transactions X .667 hours) of administrative workload time were saved. Cardholders were available to satisfy other administrative requirements which might lead to a reduction of personnel.

IV. CONCLUSIONS AND RECOMMENDATIONS

The research analyzed the affect that a minimum dollar threshold might have on the credit card reconciliation process. The data, cost savings and labor hour reductions, supported the establishment of threshold. However, NAVSUP, program manager for the program did not support the establishment of a threshold.

A. CONCLUSIONS

Conclusion 1. A minimum dollar threshold of less than or equal to fifty-dollars to preclude credit card reconciliation should be established as a cost savings benefit. The benefits of a threshold have been documented in the thesis.

Conclusion 2. The implementation of the threshold resulted in cost savings. Though it might not seem a substantial amount, net savings of $667.79 for three months, a twenty-five percent reduction in labor hours associated with the reconciliation procedures was realized. The reduction of forty-one hours per quarter, or approximately 160 hours per year, might prove to be the largest advantage. Cardholders were available to perform other administrative staff support tasks (i.e. receptionist, secretarial, major

reconciliations {> $50.00}, etc.), which might lead to possible personnel reductions - an additional savings. Additional savings associated with personnel reductions were between $22,000 (GS-5) and $32,000 (GS-8). The actual amount was dependent upon the Reduction in Force practices employed by NPS. Employee pratices were beyond the scope of the thesis and were mentioned only as a potential cost savings.

Conclusion 3. Federal guidelines contained in the Department of Defense Financial Management Regulations (DoDFMR) did not prohibit, or expressly authorize, the establishment of a threshold for credit card purchases. However, it did authorize thresholds for large contracts (> $25,000).

Conclusion 4. Guidance from Naval Supply Systems Command required all discrepancies to be reconciled to the penny ($.01). The basis for the guidance was that the bank needed reimbursement for the exact amount of funds paid to the vendor. Regardless of whether or not a discrepancy existed, the bank was reimbursed for the amount of funds paid to the vendor. The guidance from NAVSUP should be removed as an obstacle to the creation of a threshold.

Conclusion 5. NAVSUP's no threshold policy differed with the opinion offered by OUSD (C). NAVSUP was the audit agency for credit card programs; hence, a no threshold policy must be followed.

B. RECOMMENDATIONS

Recommendation 1. Establish a threshold of less than or equal to fifty-dollars and realize the savings and potential savings of conclusion 2. Discrepancies greater than fifty-dollars were subjected to reconciliation procedures.

Recommendation 2. NPS should initiate a request to NAVSUP to be the test platform for the establishment of a threshold and demonstrate the savings to DoD and NAVSUP. This might lead to a revision of the regulations, with NPS at the forefront of change.

C. ANSWERS TO RESEARCH QUESTIONS

Primary research question: Should a minimum dollar threshold be established which might decrease the number of reconciliation actions to be performed on vendor's invoices and credit card statements? If so, in what dollar amount and for what reason?

The savings demonstrated in the thesis were relatively small, with projected annual savings of approximately

$2,500. However, additional savings might be realized by a possible reduction in labor hours. Personnel would be afforded the opportunity to perform other administrative functions, if kept on, or the position eliminated. See Conclusion 2 for additional information.

Secondary research question number 1: What were the possible cost savings of not reconciling requisitions below the threshold?

The calculated savings were $667.79. As previously mentioned, the potential significant savings was the twenty-five percent reduction in the labor hours associated with the reconciliation process. Personnel might be utilized to perform other administrative functions with the timesavings. and lead to a reduction in force and possibly produce additional savings.

Secondary research question number 2: Did Naval Supply Systems Command support the establishment of a threshold and was a threshold authorized by the Department of Defense Financial Management Regulations?

The official position of Naval Supply Systems Command was that all discrepancies must be reconciled to the penny ($.01). The policy was based on the bank being reimbursed for the amount of money it paid to the vendor for payment of

the credit card purchase. However, it has been indicated that the bank was reimbursed for the amount it paid, regardless of whether or not a threshold existed.

The DoDFMR did not specifically mention the reconciliation of credit card statements in references made to minimum thresholds. As stated in the thesis, the references in the DoDFMR appeared to be intended for large contracts and not credit card purchases. An interview conducted with OUSD(C) personnel confirmed that the references did not necessarily apply to credit card purchases.

Although the DoDFMR did not authorize a threshold for credit card procurements, neither did it prohibit the establishment of threshold. The bottom line, according to OUSD (C), was that it was up to the individual activity to decide whether or not to establish a threshold. Once the threshold has been established, the activity was required to adhere to it and inform the respective chain of command of the threshold.

D. AREAS FOR FURTHER RESEARCH

Two areas for further research were recommended. The first recommendation was: determine if cost savings were realized by the implementation of the "pay and confirm"

procedures. The second recommendation was to research the causes of the discrepancies and recommend strategies to reduce the number of discrepancies.

APPENDIX ACRONYMS

AO - Approving Official

DFAS - Defense Finance and Accounting Service

DoD - Department of Defense

DoDFMR - Department of Defense Financial Management Regulations

DoN - Department of Navy

GSA - General Services Administration

NAVSUP - Naval Supply Systems Command

NIA - Notification of Invoice Adjustment

NPS - Naval Postgraduate School

SOA - Statement of Account

OUSD (C) - Office of Under Secretary of Defense (Comptroller)

LIST OF REFERENCES

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3. Department of Defense Financial Management Regulations, Volume 4, Chapter 3, Paragraph 030301.

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